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American Farmer Establishment.

BALTIMORE: TUESDAY, DEC. 13, 1836.

FAILURE IN THE POTATO CROPS OF GREAT BRITAIN.

A very interesting discussion is now going on in the Farmer's Magazine, published in London, with respect to the cause of the failure of the Potato Crop, and as every thing which can tend to throw light upon a branch of husbandry of so much magnitude must be of intense interest to every one engaged in the culture of the earth, we shall give a brief view of the several articles on the subject.

It appears that the failure arises from the inability of the sets to germinate, and the difficulty with the several writers, is, to trace this defect to its proper cause. One writer states that when we take into view that the method of keeping the seed, of making the manure and mode of planting, have all been conducted and managed nearly in the same manner for the last fifty years, and no failures have occurred till within the last 3 or 4 years, and unless it can be shown that the drought has been more severe in the early part of the last three or four seasons, than it has been any other year during the course of the last fifty, the drought alone must go for nothing.—And, in order to show the inexplicableness of this reason as the primary cause, he illustrates his position by the following facts: The last year he bought a few bolls of seed potatoes from a Strat-haven dealer; they were planted on a piece of hard clay land; the whole came up and produced as good a crop as could be expected. The same dealer informed him that he had supplied three other farmers with a good many bolls from the same pit, one of these had a good crop, the other two proved almost total failures, and one of the latter planted on land admirably adapted to the growing of potatoes. He maintains that it is not the fault of the manure, as in some ca-

ses where manure was taken from the same heap, and, indeed, out of the same cart, a part of the planting has succeeded well, and the other part has failed entirely. He asserts it as a fact with-in his own knowledge, that the failures have most generally occurred upon heavy unpulverized clay soils;—though in numerous instances, the same disasters have occurred upon the very finest soils, and even upon the haughs of Clyde, a locality famous for the production of good crops of this excellent vegetable.

Another writer states that in all cases where the drills, after being planted, were exposed to drought the failure has been more general; that where they were well protected from the sun, or where the ground was damp, the failure has been but trifling: he further states that the exposure of the ground to the sun, so as to dry it severely, appears to have had great influence in destroying the sets, and then adduces the following facts to show the truth of his remarks: One neighbor near Paisley, in planting a field of potatoes the last season, had to drive his dung from a distance, so that some part of the dung in the same drills was laid on in the morning, and other parts in the afternoon, the whole having been covered up towards evening: the results are thus stated. Those parts where the dung was laid on in the morning and thoroughly drilled, the potatoes proved nearly a total failure: where the dung was laid on at mid-day, the failure was more partial: and where it was laid on in the afternoon and the drills closed up immediately after, the crop is excellent and no failure whatever.

This writer says that an intelligent farmer from the parish of Inchinnan, who suffered severely last year by the failure of his potato sets, assured him that he found the same results from a similar course of procedure: that having made these observations last year he has been careful this season, to avoid as much as possible the exposure of his potato sets or dung to the sun's rays, and from the adoption of this course combined with a change of seed, he has an excellent braird of potatoes, without the failure of a single plant, while his neighbors in all directions are in a very different situation. This same

gentleman had made repeated experiments of the setting of the whole potatoes, of a small size in places where there was risk to the seed, and his experiments had always been successful, both in preserving the seed from rot, and raising an excellent crop.

Another writer, in giving an account of the total failure of the potato crop in Ayreshire, Scotland, states, that for entire districts of country the carefully prepared arable land looked no better than red land, that in many instances farmers had planted a second time, while more had been driven to substitute turnips for their potato crop. He states that in the neighborhood of, and for miles around Ayre, the lazy bed system succeeded best; and that the potato crop had failed in Ireland also.

Appended to this latter communication we find the following statement of facts:—

1st. In a farmer's field to the eastward of Ayre, a number of people set out their potatoes in the usual way. Some used horse or cow dung in a damp condition: others used ashes from coals in a dryish state: the potatoes planted on the damp dung almost all rotted, whilst those planted on the dry ashes, almost uniformly sent up strong stems, and thrived admirably.

2d. Another farmer planted his potatoes with two kinds of horse dung, the one kind he obtained from a dog kennel, and consisted of the contents of the intestines of the dead horses which had been employed in feeding the hounds for some months previous, and having been exposed to the sun and air had become as dry as powder when applied to the potatoes: the other sort which he used on the remaining portion of the same field, was taken from the dung-stand, and was fresh and sappy;—the seed planted on the dry manure vegetated regularly and produced a good crop—but that set on the moist dung proved a total failure.

The conclusions arrived at by these farmers, are—that the potato plant in Britain has become so weak as to be unable to resist the strong stimulations of manure when in a state of active fermentation; and, secondly, that a dry light kind of dung ought to be used till the root regains its pristine vigor.

The facts we have detailed; the results of the experiments growing out of them, and the inferences to be drawn from the premises generally, though confined in their disastrous effects to our transatlantic brethren, are highly important, and should meet, as they deserve, the serious consideration of every potato grower in America. The same laws which regulate the vegetable world in Europe prevail here, and the same cause which operates there to cut off this source of the farmer's revenue, may reach us, if it has not already done so. If from long culture in the same soil—if from a similarity in the quality and mode of applying manure—if from a sameness in the manner of cultivation—we say, if from a combination of all these causes, the seed itself has become enfeebled, and put on a state of degeneracy, other and more appropriate treatments should be resorted to. It is a well established fact, that to continue the same vegetable upon the same spot for years of continuous culture, is to ensure a decreased crop; and as the phrase of the farmer has it—the ground becomes sickened of the particular thing which may have been too long cultivated therein, and will only produce it in stunted proportions. The enlightened advocates of rotation of crops, affirm with great plausibility, and as we believe, truth, that in every soil, there is something found furnishing nutritive matter which is peculiarly grateful to some particular plant, and conducive to its healthful and vigorous growth: that while this aliment abounds, the plant will flourish; but when the supply becomes abstracted, the same vegetable which once so delighted, and grew so luxuriantly therein, will take on a sickly aspect, supporting life with difficulty; and that although it will no longer grow therein, another vegetable which may succeed it, will find something congenial to its appetites, and disport its growth thereon most lustily.

Taking a view of the whole ground as developed by the facts before us, and applying them to the test of reason, we think that the feebleness of the potato sets, and the uncertainty of their germinating in Britain, arises mainly from the same ground being too long employed in their culture—the want of a proper system of rotation, and too little attention being paid to the change of seed.

WHEAT FLY—A PROPOSED PREMIUM.

We make the following extract from a communication which appeared in the Baltimore Chronicle, of the 8th instant, and commend the

proposition it contains to the consideration of Agriculturists generally. The writer, it will be seen, estimates that the last wheat crop, from the ravages of the Fly, and other causes, is less by 12 millions of bushels than usual, and proposes that the legislature should be memorialized to offer a premium of \$4,000 to any person who shall discover a preventive remedy against the ravages of the Hessian Fly,—and although we dissent from the writer's assertion, that the egg of the insect is deposited on the seed wheat, we think the amount of money named, could not be more judiciously appropriated; for if the pecuniary inducement should lead to a discovery, the benefits to the country at large, will prove of incalculable and lasting benefit.

"From the best data I have been able to get at, I believe the wheat crop in these States alone, to be at least 12 millions of bushels less than usual. This loss falls principally upon consumers in the first instance, many of whom have been obliged to anticipate their crop, and unfortunately regulated their expenditures in expectation of their usual crop; disappointed in their usual resources, they are obliged to disappoint the country merchant; and others who have been more provident than to go in debt, are nevertheless forced to dispense with many comforts which they have been accustomed to enjoy. Thus the country retailers being disappointed in receiving his dues, and in making his usual sales, is forced to disappoint the merchants in the cities, from whom he received his supplies, whilst they, poor souls, are not only forced to meet their own engagements for an unusually large stock of goods, (for I believe it is admitted that the merchants expected an increased business) but are obliged to make good the unexpected delinquencies of their customers. Now, sir, I have not written this without an object, being clearly of opinion that the country has sustained an actual loss of twelve millions of dollars by one of the vilest foreign agents that ever invaded our country, viz: the Hessian Fly. I propose that the merchants and mechanics shall unite with the farmers in an early application to our legislature, praying that honorable body to offer a premium of at least \$4,000 to any individual who may discover an effectual preventive to the devastations of this little insect. I have no doubt if Maryland consents, Virginia Pennsylvania and New York will follow her example. We should then have a premium of sixteen thousand dollars offered, a sufficient sum to attract the attention of the ablest naturalists of our country; and I have no doubt but the experiment would prove successful. At all events the State would hazard nothing, for if an effectual preventive be not discovered, the State would not be called upon to pay the premium, and if an effectual preventive be discovered, her citizens would be benefitted greatly beyond the amount paid. From my observations, I am convinced that the impression that this insect is migratory in its habits, is erroneous. On the contrary, I am firmly convinced that the egg from which the insect is hatched, is

sown with the grain, and that any preparation which could destroy the egg on the seed wheat, without injuring the germ, would prove effectual.

A PRACTICAL FARMER.

A mode of producing two crops of Grapes, in one house, in one year.

Loudon's October number number of his *Gardener's Magazine*, contains an account by a correspondent, of his method of cultivating the grape, by which he obtains two crops in one year, and had not for the space of five years lost a single crop. He has but a limited quantity of glass, and that of the worst sort, being that he had used over his pine pits. He has a house 30 feet long, 16 feet rafters, 30 inches front glass, with eleven vines planted outside; five of which are excited for the spring crop, and six for the autumn crop. The five vines were turned out of the house in the middle of May, 1835. When the six vines for the late crop were introduced, those turning out were laid upon a flat trellis in front of the house, the wood being ripe at the end of July, at which time they were pruned upon the spur system. Each vine was divided at the entrance into the house, and formed into two principals, which are the full length of each of the rafters. In a week or so after pruning, the vines were covered, to keep them both cool and dark, until Oct. 26, when they were introduced into the house, and the six others placed in their situation. These six had been introduced in the middle of May, 1835, and had matured their crops and ripened their wood. The other five had sprung their buds above an inch when put into the house, and were pruned with two stems, one vine being divided at its entrance into the house, and made into two principals, so that the rafters were completely furnished. The crop was 180 lbs., independently of what was cut for the table of Mr. Loudon's correspondent.

The five vines taken in on October 26, were immediately wrapt with coarse sacking and well moistened with cold spring water. The house was kept low, until every bud had sprung or swelled, when the sacking was released, and in a few days taken off. The buds all pushed vigorously, and were in full bloom by Christmas morning. The usual hot house rules were followed afterwards; only keeping the house cool in the evenings. Instead of a high moist heat, a cool dry atmosphere is necessary. The fuel used was small coal made into the form of bricks with clay.

The farmers and planters throughout the country, should act in concert and secure a portion of the surplus revenue to advance the cause of husbandry.

[From the London Farmer's Magazine for August, 1836.]

ON AGRICULTURAL CHEMISTRY.

BY THOMAS SHAPTER, M. D.

On the importance to the scientific farmer of an intimate knowledge of the composition of the soils he has to manage and to improve, and of the manures which he adds to them, there can be but one opinion; for until such knowledge be acquired, he must remain in ignorance of those physical changes and new combinations which are effected by a judicious admixture of them, the results of whose operations he knows to be advantageous only by long and often dearly bought experience.

In order to prosecute such an inquiry as the consideration of these subjects must entail, it may appear, perhaps, to the generality of readers, that the more natural course to be performed would be, first, to investigate the composition of the various soils, and afterwards, that of the manures; but I have here preferred commencing with the latter, as I think it will much simplify the subject by preventing repetition, and enabling me, when speaking of the composition of the soils, to allude to the manures which are applicable to them.

The term *manure*, taken in its most extended meaning, includes every matter whereby a soil may be improved, and rendered capable of yielding an increase of nourishment to the plants committed to it, and by which their growth is promoted: wherefore all those substances which by being placed in juxta position, or by being filtrated through their tissues, merely excite the organs to perform more actively the functions of nutrition, come under this denomination, as well as those matters which may wholly in themselves, or in part by their elements, pass into the plant, and by becoming a component part of its composition, add essentially to its growth and increase. According to this extended view, various products of the three kingdoms in nature would come within the denomination.

But, in a definition so comprehensive, many substances are included, which I think, can scarcely come within the ordinary acceptance of the word; therefore, I shall use the term *manure* under certain limitations.

Chaptal, in his treatise on agriculture, divides manures into *nutritive*, which are those which furnish juices and nourishment to the plant, and *stimulative*, which are those substances, as above stated, that only excite the organs to perform their natural functions in excess: we may say that this latter class stands in the same relation to the vegetable economy, as condiments and seasonings do to the animal.

For the sake of explicitness, I shall prefer turning this latter class of chaptals "*amenders of the soil*," and restricting the term "*manure*," to the former only; so that, according to their different definitions as above stated, manure will include those matters principally derived from the animal and vegetable kingdoms, which are capable of entering into the composition, and adding to the substance of the vegetable; while the amenders of the soil will comprehend on the other hand, those products afforded chiefly by the mineral kingdom, not capable of being assimilated to the substance of the vegetable as manures, yet of use in the

furtherance of vegetation,—thus including necessarily the consideration of a number of substances of very vast importance to the agriculturist.

Decandolle says, that every amelioration of the soil, such as draining, is an amender, in the strict sense of the term; but here we limit it to such ameliorations which are practiced on the soil only by the addition and mixture of matters, with the design of modifying its physical and mineralogical character; independent of any prominently nutritive effect. We must, nevertheless, bear in mind, that although this division of the subject will be extremely useful for the purposes of investigation, and in a theoretical point of view, is strictly correct, yet for all practical purposes, the relation in which manures and amenders stand with regard to each other, must not be forgotten; for the greater part of manures have also a claim to the title of amenders, from containing, for example, certain earths, from different circumstances, and from influencing the density, temperature, moisture, &c., of the soil to which they may be added!

Manures are here defined as those substances capable of affording a salutary nourishment to vegetables in general, by presenting to them the necessary elements in a state of extreme division, either mechanical or chemical, which elements, through the agency of the vital processes of assimilation with which vegetables are endued, become a component part of the living plant.

Vegetables are composed principally of carbon combined with oxygen and hydrogen; we therefore, see the reason why dead vegetable matter, containing these principles may become food to the living plant; and when we moreover recollect that animal matter often contains carbon, and always nitrogen in addition to the oxygen and hydrogen, we see why animal as well as vegetable matters, are entitled to be called manures, since both as shown by experience are consumed in vegetation. It has been proved, as Sir H. Davy asserts, that they can only nourish the plant by affording solid matters capable of being dissolved by water, or gaseous substances capable of being absorbed by the fluids in the leaves of vegetables; therefore the great object to be obtained in the application of manure, should be to make it afford as much soluble matter as possible to the roots of the plant, and that in a slow and gradual manner, in order that it may be entirely consumed in forming the sap and organized parts of the plants.

Several experiments which I have made, with the aid of poisons and coloring matter, prove that plants have the power of absorbing substances, when in a state of solution, unchanged in their chemical relations. The following experiment, from the lectures on agricultural chemistry, and which I have repeated with a similar result, is sufficiently conclusive:—

"The roots of a *primrose* were introduced into a weak solution of oxide of iron in vinegar, and suffered to remain till the leaves became yellow—the roots were then carefully washed in distilled water, bruised and boiled in a small quantity of the same fluid: the decoction of them passed through a filter, was examined by the test of infusion of nutgalls, the decoction gained a strong tint of purple, which proves that a solution of

iron had been taken up by the vessels or pores in the roots.

But it is found that the plant, in acquiring the elements of which it is composed, from these manures, does so in many instances, through certain complex operations, and not always by the substance being merely placed in opposition; thus, most probably the carbon, of which plants are chiefly composed, is presented in the form of carbonic acid, and is then decomposed again by the vital power of the vegetable, in order to its proper assimilation. This view is suggested from the minuteness of the pores of plants, which renders it very improbable that the smallest particles of solids can pass into them from the soil. Davy, to prove this, made the following experiment: some impalpable powdered charcoal, procured by washing gunpowder, was placed in a phial containing pure water, in which a plant of peppermint was growing: the roots of the plant were pretty generally in contact with the charcoal. The experiment was made in the beginning of May, 1805. The growth of the plant was very vigorous during a fortnight, when it was taken out of the phial; the roots were cut through in different parts, but no carbonaceous matter could be discovered in them, nor were the smallest fibrils blackened by the charcoal, though this must have been the case had the charcoal been absorbed in a solid form. From this he infers, as no substance is more necessary to plants than carbonaceous matter, and as this cannot be introduced into the organs of plants except in a state of solution, or in the form of gas, that there is every reason to suppose that either substance less essential will be subject to the same law, when in a solid form.

We, therefore, see the reason why these elements of the plant are rarely to be employed in their natural condition, but are left partially to ferment and putrify before they are used; especially when it is taken into consideration, that by permitting a partial decomposition to take place, the elements of which they are composed, not only become more soluble, and therefore, more available, when employed for agricultural purposes, but during the furtherance of these operations an additional advantage is derived from the production of many gases, such as the carbonic acid, carburetted hydrogen, azote, and ammonia, which in themselves may become aliments to the plants, or stimulants to its organs of assimilation, though it must be allowed that the effects they are capable of producing must necessarily be small, for such parts as assume the gaseous form, in consequence of their facility of passing into the surrounding air, easily become mixed with the atmosphere and diffused through it.

I stated above what the elements were, which manures must have the power of yielding, and I also stated that animal and vegetable matters contained them; but it is unnecessary that a plant should submit to those changes, which it can only undergo after death, before it is in that condition which is essential to its having the power of yielding the required products; nor is it less necessary, to the same effect, that animal matters should likewise be deficient in all vitality: therefore we see it is proper that a partial decomposition should ensue, in order to afford as much soluble matter as possible to the roots of the plants re-

quired to be measured; yet, this process must not be permitted to too great an extent, as in such case there would remain from the manure little else but fixed salts, combined with such earths and juices as would be rejected by the plants, or, at any rate, its salutary effects would be much curtailed, yielding, perhaps, nourishment but to a single crop.

The means employed for retarding the process of decomposition, are very various, but there is none more practically useful to the farmer, than that of mixing the manure with the soil; for by so doing, it is divided into small masses, which are not so quickly acted on as larger; thus by prolonging the phenomena that take place during decomposition, food is gradually afforded to the plant.

On the other hand, it is necessary that some manures should be exhausted by fermentation of somewhat of their power, when in their first condition they are found in their effects to be strong and rank: of this description is the dung of certain animals, which being the excrementitious matter of the food which is necessary to their nourishment, is by the process it has already undergone, already more or less prepared for immediate use, depending on the force of the digestive organs, which varies somewhat in each species of animal, as well from the differences in their food, as from the quality of the digestive juices furnished by their stomachs.

It is from these circumstances that the questions arise as to the relative value of manures, depending upon their compositions, and the resisting power with which they are endowed.

Many theories have been offered as to the mode in which manures operate; of these some are sufficiently fanciful, while others carry with them considerable weight: the most conspicuous, both as regards their intrinsic merit, and from the high names of their authors, are those of Rozier, Senebier, and our countryman, Sir Humphry Davy.

Rozier, under the impression that nothing can be properly presented to the plants unless dissolved in water, and that the effects of manure is to increase the quantity of soluble matter in the soil to which it is added, argues that their action is to be compared to soaps; but then he extends the meaning of this word, far beyond its ordinary acceptance, for he not only includes the different combinations of oil with alkalies, but all such modifications of matter as result from simple solutions.

Senebier holds the opinion, that they are rendered useful only through the process of fermentation which they undergo, under the impression that it is through its means alone that carbonic acid is developed; but he has not shown, (which it was essential to have done,) that all carbon, which plants derive for their sustenance and growth from the media with which they are surrounded, is presented to them in that form, or, admitting such to be the case, that that fermentation is the only means to this end.

Sir Humphrey Davy at one time appears to have held much of the same opinion, but subsequently attributed the mode of operation to a simple solution of those component parts necessary to vegetation. He says, that he introduced plants into solutions of jelly, sugar, mucilage, &c., but

they died; while, after these various solutions had undergone fermentation, similar plants flourished in them, at which time he concluded that fermentation was necessary; but he says that he has since found that the deleterious effect was produced from the vegetable organs being clogged with solid matter, and from the prevention of a free transpiration in their leaves, in consequence of the solutions with which he experimented being too concentrated. The experiments, from which he deduces that his former opinion was erroneous, were made with similar solutions in the proportion 1-200th part of animal and vegetable matter. "Plants of mint," says he, "grew luxuriantly in all these solutions, but least so in that of the astringent matter. I watered some spots of grass in a garden with the different solutions separately, and a spot with common water, the grass watered with solutions of jelly, sugar, and mucilage grew most vigorously! and that watered with the solution of the tanning principle, grew better than that watered with common water." And then he goes on to show, from experiment, that there is every reason to suppose that soluble matters pass unaltered into the roots of plants.

Although each of these theories is sufficiently plausible, yet there is that known in opposition to each which permits one to say decidedly that neither is to be considered conclusive. Without entering into any general discussion as to their relative merits, we may state, that by taking them all into consideration, by supposing, that now the phenomena are in accordance to the laws of one, and then in accordance of another, and by calling to our assistance the knowledge we possess of vegetable nutrition, we may, though not capable of defining a theory, be enabled to comprehend the various modes by which manures yield nourishment to the vegetable world.

We shall find in the progress of this enquiry, that the different manures contain the elements necessary to vegetation in very different proportions, with which as well as with the relative strength of the chemical affinities they exert, both in respect of their own composition, and the conditions to which they are subjected, it will be necessary we should make ourselves acquainted. The consideration of these subjects may be resolved into the three following divisions:—

1. What is the gross amount of carbon contained in a given quantity of manure; in what state of combination does it exist, and in what mode is it presented to the plants?

2. What other matters are contained, which from their nature may essentially be considered as manures, as nitrogen, oxygen, &c.?

3. What other matters are contained, which cannot be esteemed as manures, but as amenders or stimulants only.

The first of these queries involves by far the most important subject of enquiry to the farmer, and, fortunately, is not very difficult of investigation. The second and the third, though not so accessible to our researches, are by no means to be neglected in an enquiry of this nature; indeed, without a knowledge of them, the subject would be but imperfectly considered.

The more natural and convenient division of manures of organic origin, will be found to be into that of the vegetable, animal, and mixed.

Vegetable Manure. Under this title a vast number of substances are included, the agricultural properties of some of which will shortly be discussed. The whole of this class, for the most part, owe their importance to containing extractive matters, albumen, mucilage, gelatine, sugar, oils, acids, salts, carbonic acids in aqueous solution, &c., which, however in their pure form, are seldom available to the farmer, as an application of manures, though they may be of great and prompt advantage to vegetation; nevertheless, they are all employed by him, combined, generally speaking with a great excess of fibrous insoluble matter, which must undergo certain chemical changes before it can become the food of plants; for it is during the progress of the processes here alluded to, that the decomposition ensues which carries the solubility of those particles, which in their former condition were insoluble. "Of those substances," says Chaptal, "which constituted animal, vegetable existence, the greatest number are soluble in water, and it is evident that in this state we may employ them as manures without previous fermentation; but when they contain much matter insoluble in water, it is necessary they should be decomposed by fermentation, since by its means their nature is changed, and new compounds are formed, which are soluble, and capable of being taken up by the plant."

The progress of the changes which are thus effected, have been particularly detailed in the lectures on agricultural chemistry; together with that great author's opinion, on the propriety of taking "a scientific view of the nature of these changes,—of the causes which occasion them, and which accelerate or retard them,—and of the products they afford." The products of fermentation are very various, depending on the nature of the substances of which the vegetable mass is composed, influenced greatly by many accidental causes. The diversity and almost uncertainty of the products, have rendered observations on its progress very difficult; we may, however, say, that the result of the spontaneous re-action of the matters composing the mass on themselves in consequence of humidity is, that carbonic acid gas, acetic acid, carburetted hydrogen, &c., are involved, leaving eventually a brownish, blackish mass, which is termed "terreau," by the French, and earthy matter or vegetable mould, by ourselves. To this effect, Sir H. Davy, from experiment, proves, that "if any fresh vegetable matter, which contains sugar, mucilage, starch, or other of the vegetable compounds soluble in water, be moistened and exposed to the air at a temperature from 55° to 80°, oxygen will soon be absorbed, and carbonic acid formed; heat will be produced, and elastic fluids, principally carbonic acid, gaseous oxide of carbon, and hydro-carbonate, will be evolved; a dark-colored liquid, of a slightly sour or bitter taste, will likewise be found, and if the process be suffered to continue for a time sufficiently long, nothing solid will remain except earth and saline matter, colored black by charcoal." The dark-colored fluid always contains acetic acid. So that the general division of the products of this putrefactive fermentation may be stated as into liquid, gaseous, and solid.

The liquid are chiefly water and acetic acid, and with, probably, a little oil. The gaseous are the carburetted hydrogen, carbonic acid, and,

when nitrogen is present, ammonia. The solid are those matters which are contained in that residuum termed vegetable mould.

The promiscuous principles, which depend on the arrangement of the elements, are not equally liable to undergo this species of dissolution: as a general law it may be stated, that those which contain oxygen and hydrogen in the proportions to form water, are the most susceptible of the putrefactive changes; whilst acids which contain an excess of oxygen, and those substances in which charcoal and hydrogen prevail, do not manifest a similar tendency, unless, through the mediation of heat and moisture, their affinities be estranged.

Thus, "in proportion as there is more gluten, albumen, or matters soluble in water, in the vegetable substances exposed to fermentation, so in proportion, all other substances being equal, will the process be more rapid. Pure, woody fibre alone undergoes a change very slowly; but its texture is broke down, and it is easily resolved into new elements when mixed with substances more liable to change, in consequence of containing a larger proportion of oxygen and hydrogen. Volatile and fixed oils, resins, and wax, are more susceptible of change than woody fibre, when exposed to air and water, but much more less liable than the other vegetable compounds."*

We see, therefore, that it is necessary, in order to appreciate the probable action of the many manures generally in use, to analyze them carefully, so that we may be enabled to consider what the ingredients are of which they are composed; but this must not be the end of our investigations, as other considerations of importance are not to be overlooked. In proof, we adduce the following:—Carbon, as repeatedly observed, holds the first rank as a manure: the matter which is the most rich in carbon is the charcoal of wood, which, were we to take the relative quantity only, into consideration, we should be induced to believe to be the best of manures; yet we really find that it can scarcely be ranked amongst them, for the carbon, when it is in this condition, is but slightly induced to form carbonic acid, and is not susceptible of forming a solution capable of being absorbed by the roots.

The other circumstances, to which attention is principally to be paid, are,—the elevation of temperature, which may be caused either by the rapidity or degree of fermentation; the quantity of water which the plants contain; the presence of such nutritive matters as are unequally soluble, thus permitting a prolonged action; and the presence of such matters as are not of a nutrient quality, but merely excitants.

We shall now proceed to the consideration of the more important manures in ordinary use, and to which the above observations are applicable.

Green Crops.—The most usually employed, are the green succulent plants, as trefoil, lucerne, beans, &c. These are principally composed of woody fibre, combined with mucilaginous and saccharine matter, which from containing the elements they are composed of, in such proportions as are easily convertible into water, especially as their affinities are so weak as easily to undergo the putrefactive fermentation, aided, as this pro-

cess is, by the large proportion of fluids they contain, the woody fibre, which in its simple state, from containing a much larger proportion of carbon than oxygen and hydrogen, is not very susceptible of putrefaction, by being submitted with the other portions of the plant to this action, has its carbon converted into carbonic acid, reducing thus the oxygen and hydrogen to proportions convertible into water;—thus the whole becomes soluble.

As these processes take place very easily, it is necessary to use them immediately they are cut down, or the usual and best plan is, to plough them into the ground, at once, on which they were growing; but care must be taken that they are not sunk too deep in the soil, as in such case, from being deprived of heat and air, their benefit will be but very slowly developed; at the same time they must be ploughed in sufficiently to enable the woody fibre to be dissolved, and to prevent the fermentation going on too rapidly, that the nutrient elements may not be dissipated through the air.

The best time for ploughing in these green crops is during the summer, before the plants have scattered their seed, and when their leaves are full of fluid, and there is heat of sun sufficient to hasten the destruction of their natural condition.

It is the opinion of a practical writer, that where crops of green plants can be turned down, when the season is sufficiently hot to ensure their speedy running into the putrid state, there cannot be any doubt but that it is a better and more advantageous practice, especially where manures of other kinds are scarce, than that of procuring it by the consumption of such crops by the feeding or soiling of cattle.

Of a similar nature both as to chemical composition and practical use, is the *river weed*; it contains a large quantity of mucilaginous and saccharine matters, with perhaps, less of woody fibre than the succulent land plants.

From the very large proportion of water which it contains, it is necessary to heap it for a week or so, (ten days at the furthest), to permit the superabundant quantity to drain from it: it then may either be ploughed in, or mixed with a little lime and earth to form a compost. From this large proportion of fluid, and from the easy solution of its component parts, it is necessary to use it as early as possible, for a very short time is necessary, under favorable circumstances, to hasten the completion of the process of fermentation,—in which case its application as a manure would be useless.

In the neighborhood of the sea-coasts, there is not a more available manure than the sea-weed; the fuci, algae, and confervæ, are indiscriminately used: though unequal in their composition, they each abound with mucilage and salts, which for the most part are the muriate and carbonate of soda, and an analysis has shewn, that they also possess much carbonic acid.

As sea weed does not contain fibrous matter, there is no necessity for permitting it to ferment before ploughed in, from the same cause, also together with the quantity of water formed by its decomposition, the effect produced on the land is very transient. So rapid, indeed, is this process, that it is found the east up weed is not nearly so

valuable as that cut from the rocks. Those soils which are manured by it must be annually supplied with large quantities.

In the islands of Guernsey and Jersey it is used in the Spring in its natural state, immediately after cutting it from the rocks, when it is found of great service in pasture lands; later in the year, however, they dry the weed, and, from scarcity of fuel burn it, and use the ashes only as a dressing; but the loss, in an agricultural point of view, is very great, in fact, it is little more than strewing the ground with sea salt.

The value of this manure in improving old pastures is very great, and where it has been tried, it is remarkable with what avidity sheep and cattle eat the grass, and how well they thrive and fatten on it.

Scarcely an agricultural paper reaches us from the east, or from the west, but has accounts of the proceedings of agricultural societies, of agricultural fairs, or exhibitions of some kind or other. These are to us truly refreshing evidences that, though in some states the farming communities are not alive to their true farming interests, yet in others they are actuated by a generous zeal to promote the noble cause of husbandry. And in order that our readers generally may see the liberal spirit that is abroad in the state of Massachusetts, we have inserted in another page the premium list of the "*Massachusetts Society for promoting Agriculture*" for the year 1836. By the wide range of premiums, as well as the magnitude of many of them, the reader will at once perceive with what anxious care—with what profound solicitude—and well directed energies—this most excellent institution are watching and fostering the farming interest. Scarcely an article worthy of the attention of the cultivator is left without a premium of greater or less amount; and those which are intrinsically important, have allotted to them premiums of appropriate consideration, so that pecuniary inducement may come in aid of that chivalric spirit of rivalry, which animates honest hearts and intelligent heads, and prompts them onward in the race of honorable competition.

[From the *New England Farmer*.]

MASSACHUSETTS SOCIETY FOR PROMOTING AGRICULTURE.

Premium List—1836.

The Trustees of the Massachusetts Society for promoting Agriculture believe that the interest of agriculture will be better promoted by appropriating all the money at their disposal for premiums, for the encouragement of well conducted farms, rotation of crops, and other agricultural experiments, the operation of the dairy, the importation of new breeds of stock, remarkable for the quantity and quality of their milk, and their readiness to fatten, and a more thorough field culture of grain and vegetable crops, than by distri-

* Davy's Agricultural Chemistry.

buting any portion of it to the objects usually exhibited at the cattle show, in Brighton; and hope that they shall be justified in omitting the show for the present year. They flatter themselves the omission will not in any degree relax the energies of Agriculturists, but awaken their attention, and stimulate them to raising fine cattle for labor, and for the dairy, and the general improvement of other animals, that cattle shows in future may exhibit a greater degree of excellence than in former years, in the selection and preference for the best stocks.

In conformity with these views, the Trustees have concluded not to have a Cattle Show, at Brighton, this autumn, but propose to have an exhibition of butter and cheese, at a place to be designated hereafter by the Trustees, on Wednesday the seventh day of December next, and to offer the following premiums.

For Butter and Cheese exhibited, without regard to the place of manufacture.

For the best lot in tubs, pots, or firkins, not less than 300 lbs.	\$100 00
For the next best, not less than 300 lbs.	50 00
For the best, less than 300 lbs. and not less than 100 lbs.	30 00
For the next best, less than 300 lbs. and not less than 50 lbs.	20 00
For the best lot of Cheese, not less than one year old, and not less in quantity than 300 lbs.	50 00
For the next best, not less than one year old, and not less in quantity than 300 lbs.	30 00
For the best Cheese, less than one year old, and not less in quantity than 300 lbs.	50 00
For the next best, of not less quantity,	30 00

The claimant for the several premiums on butter to be exhibited in the month of December next, must state, in writing, the following particulars, viz. the number of cows kept on his farm; the mode of keeping; the treatment of the milk and cream before churning; the mode of churning, winter and summer; the method adopted to express the butter milk; the quantity and sort of salt employed: whether saltpetre or any other substances have been used in the process; the best time for churning and keeping butter in hot weather, and the best mode of preserving it, in and through the summer and winter, and in what vessels.

The claimants for the several premiums on Cheese, must state the mode of making the same, and the following particulars, viz: the number of cows kept; whether the cheese is made from the proceeds of one, two or more milkings; whether any addition is made of cream; the quantity and sort of salt used, and the quantity of rennet; the mode of pressing, and the treatment of the cheese afterwards.

Farmers in the several states are invited to compete for these premiums.

Claims for the premiums on butter and cheese must be made in writing, addressed to Benjamin Guild, esq. Boston, post paid, on or before the 5th of December next, and the parcels deposited before Wednesday the 7th, at a place to be designated hereafter by the Trustees, on which day at 10 o'clock, before noon, the Committee will proceed to examine the lots offered for pre-

mium, and none will be admitted after that hour.

The premiums will be awarded at the same place on Thursday the 8th.

It is particularly recommended to the competitors, that the Butter may be put up in the nicest manner.

Each lot must be numbered but not marked, and any public or known mark must be completely concealed, nor must the competitors be present; in default of either of these requisitions, the claimant will not be entitled to premium.

And to take notice that there will be a public auction after the examination by the Committee, and those who desire to sell will have an opportunity without any charge for auctioneer's fees, but the government duty must be paid by the owner of the butter and cheese. And after the premium has been awarded, all the articles submitted must be taken care of by their respective owners, the committee having no further control or responsibility in regard to them. The Committee will be at liberty to withhold from the auction sale, any parcels either of butter or cheese, which they may have reason to suppose, from the ordinary quality of the same, or other circumstances, may have been sent merely for sale.

THE BEST CULTIVATED FARMS.

For the best cultivated farm,	\$150 00
For the next best cultivated farm,	100 00

The farm to consist of not less than 70 acres, exclusive of woodland. The owner or tenant, to entitle himself to either of the premiums, must state in writing, the nature and quality of the soil; the proportions suitable for tillage, mowing, and pasturing, respectively, and especially the quantity of irrigated meadow or low land, which is never tilled or ploughed, with as much particularity as he is able.

The number of acres planted the present year with corn, potatoes, and other vegetables.

The number sowed with winter and spring grains, and other vegetables, specifying the several kinds, and the number of acres planted or sown with each.

The quantity and kind of manure used for each crop, and the times and manner of applying it. The quantity and quality of each crop.

The number of acres mowed the present year, what proportion upland, what meadow or land that had never been ploughed, the kind of grass, and quantity of hay, according to the best of his knowledge, judgment and belief. His manner of dressing and manuring his meadow or mowing, and laying down his tilled land to grass, the kinds of grass seed, the quantity of each, the time of year it is sown, and whether with oats, barley, or other grain, or alone.

The form of the barnyard, and manner of collecting and making manure.

The number of swine kept and the quantity of pork made.

The labor employed in carrying on the farm and the quantity of ardent spirits (if any) consumed.

As it is deemed important to ascertain the best rotation of crops, it is desired that the applicants for those premiums will state the kind of crop, if not able to state the quantity raised on the several and respective places of tillage, and mowing

land described in their statements, for the year next preceding the present one.

The manner of feeding his stock in winter season; whether he gives his milch cows or oxen grain or roots of any kind, and the kind and quantity.

His treatment of calves he intends to raise; whether he lets them continue to suck, or weans them soon after calved—how soon—what food he gives them, and how long he continues to feed them.

If it be a sheep farm, the manner he treats his sheep in the winter; whether they are housed or left out in the yard, the food given them, and the time they generally lamb.

The Trustees think, that the utility of this premium materially depends on the particulars above mentioned being stated, with as much exactness as the nature of the business will admit; they do not, however, expect that the mowing, pasture or tillage land, should be actually surveyed, or the hay weighed; but only that the applicant should ascertain the quantities with as great accuracy as he can without, and state them according to his best judgment and belief. They think it proper to observe, that while they expect a substantial compliance with the terms above specified, an omission or want of exactness in some of the less important particulars, will not preclude an applicant from the premium, if on the whole his farm shall appear to be so well cultivated as otherwise to entitle him to it. The Trustees to be at liberty in all cases, before they award the premium, to visit by a committee, or such other persons as they may appoint, the farms of the applicants, if they deem it expedient.

The statement is to be signed by the applicant, but he is not required to swear to it. The trustees will rely upon the veracity of the applicant, and give the same credit to his statement as they would, if it were under oath.

N. B. Claims to be addressed to Benj Guild, esq. in Boston, post paid, before the first day of October next; and the evidence to support them to be sent as above, on or before the first day of January, 1837.

ROTATION OF CROPS.

For the best rotation of crops on the same land, not less than two acres, for three or four years in succession, commencing when it is in grass,	\$75 00
Premium to be claimed in December 1836 or 1839.	

It is expected the applicant will state the quality and condition of the land, when he first ploughs or breaks it up; the manner of preparing it each year, specifying the seed, whether potatoes, Indian corn, or other grain, planted or sown, and the kind and quantity of grass seed, the time when sowed, and whether with grain or alone, and the quantity of produce each year, including the last. The applicant's own statement, signed but not sworn to, is all that will be required.

GROWING AND PLOUGHING IN GREEN CROPS.

For the best way of improving and enriching a poor or exhausted soil, without manure, by growing and ploughing in green vegetable crops,	\$75 00
Premium to be claimed in December, 1836 or 1839.	

The applicant is expected to state the quality and condition of his land when he commences, and particularly his manner of preparing and cultivating it each year, the times of ploughing, the kind and quantity of seed sown or planted, and especially the time and times he ploughs it for a crop to turn in, the kind and quantity of grain or grass seed sown, and the time and quantity of produce, if any, either year, and, if laid down to pasture, the quantity and quality of the grass. The experiment to be made on not less than two acres. The applicant's statement, under his hand, is all that will be required.

MIXED OR COMPOST MANURE.

For a compost of stable manure, and meadow or pondhole mud or muck, with or without lime, as the applicant pleases, which with the smallest portion of stable manure and lime if used, shall approach nearest to clear stable manure, in strength and efficacy in producing crops, \$50 00

Premium to be claimed in December, 1838.

In order to test the comparative strength and efficacy of the barn manure and the compost, it is proposed that a piece of land, not less than an acre, shall be prepared in the same manner, and divided in equal halves for quantity, and that stable manure shall be used on one half, and compost in the same manner on the other, and that corn or potatoes shall be planted in each, and that both shall be ploughed, hoed and treated in every respect alike, and an accurate account of the quantity and quality, whether slack or not slack, must be stated. A statement, signed by himself and one other reputable person not under oath, will be required.

VEGETABLE AND GRAIN CROPS.

For the greatest quantity of Carrots on an acre, not less than 500 bushels, \$20 00

For the greatest quantity of do. on half an acre, not less than 250 bushels, 10 00

For the greatest quantity of common Beets on an acre, not less than 400 bush. 20 00

For the greatest quantity of do. on half an acre, not less than 200 bushels, 10 00

For the greatest quantity of Mangel Wurtzel, or Scarcity Root, on an acre, not less than 600 bushels, 20 00

For the greatest quantity of do. on half an acre, not less than 300 bushels, 10 00

For the greatest quantity of Sugar Beet on an acre, not less than 400 bushels, 20 00

For the greatest quantity of do. on half an acre, not less than 200 bushels, 10 00

For the greatest quantity of Parsnips on an acre, not less than 400 bushels, 20 00

For the greatest quantity of do. on half an acre, not less than 200 bushels, 10 00

For the greatest quantity of Ruta Baga on an acre, not less than 600 bushels, 20 00

For the greatest quantity of do. on half an acre, not less than 300 bushels, 10 00

For the greatest quantity of common Turnips on an acre, not less than 600 bushels, 20 00

For the greatest quantity of do. on half an acre, not less than 300 bushels, 10 00

For the greatest quantity of Onions on an acre, not less than 600 bushels, 20 00

For the greatest quantity of do. on half an acre, not less than 300 bushels, 10 00

For the greatest quantity of Cabbages on an acre, not less than 25 tons weight, free from earth when weighed, 20 00

For the greatest quantity of do. on half an acre, not less than 13 tons, 10 00

For the greatest quantity of Vegetables (Grain, Peas, Beans excepted) for home consumption and not for sale, raised for the keeping of stock, regard being had to the size of the farm in proportion to the crop, and to the number of the stock kept, and also to the respective value of vegetables as food, and the expense of raising the same, 30 00

For the greatest quantity of Indian corn on an acre, not less than 75 bushels, (25 lbs. in the ear to be considered a bushel,) 20 00

For the greatest quantity of Wheat on an acre, not less than 30 bushels, 20 00

For the greatest quantity of Barley on an acre, not less than 45 bushels, 20 00

For the greatest quantity of Rye on an acre, not less than 30 bushels, 20 00

For the greatest quantity of Millet on an acre, cut and cured for hay, not less than three tons; the claimant giving evidence of the time of sowing, the quantity of seed sown, and the quantity of hay produced, 20 00

For the greatest quantity of dry Peas on an acre, not less than 30 bushels, 20 00

For the greatest quantity of dry Beans on an acre, not less than 30 bushels, 20 00

For the greatest quantity of Mustard Seed not less than 20 bushels, 20 00

For the greatest quantity of dressed Flax, not less than 500 lbs. from an acre, 20 00

For the greatest quantity and best quality of Hemp on an acre, 40 00

It is to be understood that the quantity of land specified above, is in each case, to be in one piece. And the claimant of any of the above premiums, shall, with one other person, make a statement according to the best of their knowledge and belief, to the following particulars, and shall obtain a certificate of the measurement of the land by some sworn surveyor.

The particulars are—

1. The condition of the land in the spring of 1836.

2. The product, and general state of cultivation and quality of manure used upon it the preceding year.

3. The quantity of manure the present season.

4. The quantity of seed used.

5. The time and manner of sowing, weeding, and harvesting the crop, and the amount of the product ascertained by actual measurement after the whole produce for which a premium is claimed, is harvested, and the entire expense of cultivation.

6. Of Indian corn, the entire crop of the acre to be offered for premium, is to be measured in the presence of the claimant, who is to sign the statement made by the person or persons, who did harvest and measure it; and to be measured between the fifteenth of November, 1836, and the first day of January, 1837.

7. At least forty bushels of the vegetables, for

which a premium is claimed (except onions, and common turnips) are to be weighed, and 50 lbs. free from dirt, will be considered as a bushel.

EXPERIMENTS, DISCOVERIES AND INVENTIONS.

For the experiment of turning in green crops, as a manure, on a tract, not less than one acre, and proving its utility, giving a particular account in writing, of the process and the results, 300 00

For an effectual and satisfactory mode of extirpating the worm that attacks the locust tree, 100 00

For a new, effectual, and satisfactory mode of extirpating the worm which attacks the apple tree, 50 00

For any newly invented Agricultural Implement, or machine, superior to any designed for the same use, a reward not exceeding twenty dollars, according to the importance of the invention, 20 00

To the person who shall prove, to the satisfaction of the Trustees, that his mode of rearing, feeding and fattening neat cattle is best, 20 00

For the greatest quantity of raw unmanufactured Silk, not less than 10 lbs. raised by the claimant, and presented before the first of December, 1836, 20 00

TREES AND LIVE HEDGES.

For the best plantation of White Oak trees, no less than one acre nor fewer than 1000 trees per acre—raised from the acorn—not less than three years old, and which shall be in the most thriving state on the 1st September, 1836, 50 00

For the best plantation, not before offered for premium, of White Ash, Larch and Yellow Locust trees, each not less than one acre, nor fewer than 1000 trees per acre, to be raised from the seeds, and which trees not less than three years old, shall be in the most flourishing condition on the 1st September, 1836, 25 00

For the best Thorn hedge, not less than 50 rods, and which shall be in the most thriving state in 1838, 30 00

Claimants under the two last heads together with the proper evidence, must be delivered to Benjamin Guild, esq. in Boston, free of expense, on or before the first day of January, 1837.

Claims for the premiums on vegetable and green crops, and experiments and inventions, together with the evidences required, are to be in writing, and sent, free of expense, to Benjamin Guild, esq. in Boston, Assistant Recording Secretary, on or before the 1st day of December next, and they will be examined by the committee previous to the 7th day of December.

It is understood, that whenever, merely from want of competition, any of the claimants may be considered entitled to the premium, under a literal construction;—yet, if in the opinion of the judges, the object so offered is not deserving of any reward, the judges shall have a right to reject such claims. Persons to whom premiums shall be awarded, may, at their option, have an article of plate, with suitable inscriptions, in lieu of the money.

In cases where pecuniary premiums are offered, the Trustees may, having regard to the circumstances of the competitors, award either the

society's gold or silver medals, in lieu of the pecuniary premium annexed to the several articles.

That if any competitor for any of the Society's premiums shall be discovered to have used any disingenuous measures, by which the objects of the society have been defeated, such person shall not only forfeit the premium which may have been awarded to him, but be rendered incapable of being ever after a competitor for any of the Society's premiums.

Time of paying premiums.—The treasurer will attend on Thursday, the 8th of December, at 12 M. to pay all premiums awarded.

All premiums not demanded within six months after they shall have been awarded, shall be deemed to have been generously given to aid the funds of the society.

By order of the Trustees,

JOHN HEARD,

WILLIAM PRESCOTT,

PETER C. BROOKS,

E. H. DERBY,

JOSIAH QUINCY, jr.

Committee.

March 1, 1836.

MORUS MULTICAULIS TREES.

THE SUBSCRIBER has for sale, 4,000 Morus Multicaulis trees, one and two years old, which he will sell at \$25 per hundred.

EDWARD P. ROBERTS,

Balt., Dec. 12.

Editor Farmer & Gardener.

POINTERS FOR SALE.

A thorough bred Pointer Stud, of most symmetrical proportions, beautifully marked with large black and white spots, of noble size, ears pendant. She is rising 3 years old; under good command; well broken; quarters finely, and hunts with great animation and spirit. Her price is \$40. To any gentleman wishing such an animal either for immediate use in the field, or for a breeder, she would prove a most valuable acquisition.

Also, a male Pup, 4 months old, of fine form and growth, and genuine blood—his price is 20 dollars.

Applications to be made to the editor of this paper. no 15 4t

PATENT HORSE SHOES,

Made of best refined Iron, and every shoe warranted—Any failing to render the most perfect satisfaction will be received back, and the money paid for the same refunded. A constant supply for sale by

THOMAS JANVIER, Agent.

87 Smith's wharf

P. S. Henry Burden of Troy, N. Y. has obtained letters patent from the government of France, granting him the exclusive privilege of manufacturing horse shoes by his newly invented machine. nov 22 3m

DEVON STOCK.

THE editor of the Farmer and Gardener can at all times supply orders for Devon Cattle. This breed is so distinguished for their easy keep and docility, the richness of the milk of the cows, and for the activity and sprightliness of the oxen, that they would be admirably suited to the purposes of southern agriculturists.

The happy adaptation of the Devonshire Oxen, for the purposes of the farm, will be understood, when it is stated that 4 oxen have been known to plough 3 acres of ground in a day, and a team of them to trot at the rate of 6 miles an hour with an empty wagon.

Any person wishing to procure them can be supplied by addressing a letter, post paid, to the editor of the Farmer and Gardener. no 15

AN AYRSHIRE BULL FOR SALE.

A Bull of the above breed, of well attested pedigree, is now on sale by the editor of this paper. Letters on the subject must be post-paid. oct

FOR SALE,

A half Dutham and half Devon Bull, — years old of fine model and size. As his owner has no use for him he would be sold at bargain. Apply to the editor. no 15

BALTIMORE PRODUCE MARKET.

These Prices are carefully collected every MONDAY

	PER	FROM	TO
BEANS, white field,.....	bushel.	1 75	
CATTLE, on the hoof,.....	100lbs.	5 75	7 50
CORN, yellow,.....	bushel.	80	88
White,.....	"	75	82
COTTON, Virginia,.....	pound.		
North Carolina,.....	"		
Upland,.....	"	184	20
Louisiana 20a21-Alabama	"	18	21
FEATHERS,.....	pound.	50	
FLAXSEED,.....	bushel.	1 62	1 75
FLOUR & MEAL—Best wh. wh't fam	barrel.	12 50	13 00
Do. do. baker's.....	"	10 50	10 75
Do. do. Superfine, ex.	"	10 50	10 75
Super How. st. in good de'd	"	10 25	
City Mills, super.....	"	10 50	10 25
Do extra.....	"	10 25	10 50
Susquehanna,.....	"	10 50	
Rye,.....	"	7 00	7 50
Kiln-dried Meal, in hhds.	hhd.	21 00	
do. in bbls.	bbl.	4 62	
GRASS SEEDS, red Clover,.....	bushel.	1 00	1 25
Timothy (herds of the north)	"	3 25	3 75
Orchard,.....	"	2 75	
Tall meadow Oat,.....	"	2 75	
Herds, or red top,.....	"	1 25	
HAY, in bulk,.....	ton.	20 00	
HEMP, country, dew rotted,.....	pound.	6	7
water rotted,.....	"	7	8
HOGS, on the hoof,.....	100lb.	8 25	8 50
Slaughtered,.....	"		
Hens—first sort,.....	pound.	16	
second,.....	"	14	
refuse,.....	"	12	
LIME,.....	bushel.	35	37
MUSTARD SEED, Domestic, —; blk.	"	3 50	4 00
OATS,.....	"	45	46
PEAS, red eye,.....	bushel.		
Black eye,.....	"	1 12	
Lady,.....	"		
PLASTER PARIS, in the stone,.....	ton.	4 25	
Ground,.....	barrel.	1 50	
PALMA CHRISTA BEAN,.....	bushel.		
RAGS,.....	pound.	3	4
RYE,.....	bushel.		125
Susquehanna,.....	"		
TOBACCO, crop, common,.....	100 lbs	3 50	4 50
brown and red,.....	"	4 50	0 00
fine red,.....	"	7 00	7 90
wrappery, suitable	"		
for segars,.....	"	5 00	10 00
yellow and red,.....	"	6 00	8 00
good yellow,.....	"	8 00	12 00
fine yellow,.....	"	12 00	16 00
Seconds, as in quality, ..	"	4 00	5 00
ground leaf,.....	"	5 00	8 00
Virginia,.....	"	7 00	14 00
Rappahannock,.....	"		
Kentucky,.....	"	8 00	14 00
WHEAT, white,.....	bushel.		2 25
Red, best,.....	"	2 05	2 10
inferior,.....	"	1 40	2 00
WHISKY, 1st pf. in hhds.	gallon.	42	42 1/2
" in hhds.	"	39 1/2	
wagon price,.....	"	36	37
WAGON FREIGHTS, to Pittsburgh,	100 lbs	1 75	
To Wheeling,.....	"	2 00	
WOOL, Prime & Saxon Fleeces,...	pound.	50 to 60	30 32
Full Merino,.....	"	45 50	28 30
Three fourths Merino,.....	"	42 45	26 28
One half do.....	"	38 42	26 28
Common & one fourth Meri.	"	35 38	26 28
Pulled,.....	"	38 40	26 28

Howard st. Flour, sales limited, receipts very light.

BALTIMORE PROVISION MARKET.

	PER	FROM	TO
APPLES,.....	barrel.		
BACON, hams, new, Balt. cured,...	pound.	17	18
Shoulders,..... do.....	"		15
Middlings,..... do.....	"		15
Assorted, country,.....	"		14
BUTTER, printed, in lbs. & half lbs.	"	25	37
Roll,.....	"	20	28
CIDER,.....	barrel.	1 00	1 25
CALVES, three to six weeks old,...	each.	4 50	6 00
Cows, new milk,.....	"	35 00	50 00
Dry,.....	"	10 00	13 00
CORN MEAL, for family use,.....	100lbs.	1 87	1 94
CHOP RYE,.....	"		2 25
EGGS,.....	dozen.	18	25
FISH, Shad, No. 1, Susquehanna,	barrel.		
No. 2,.....	"		
Herrings, salted, No. 1,.....	"	3 50	
Maskerel, No. 1, ————No. 2	"	9 50	10 50
No. 3,.....	"		6 75
Cod, salted,.....	cwt.		
LARD,.....	pound.	16	17

BANK NOTE TABLE.

Corrected for the Farmer & Gardener, by Samuel Winchester, Lottery & Exchange Broker, No. 94, corner of Baltimore and North streets.

	VIRGINIA.
U. S. Bank,.....	par
Branch at Baltimore,.....	do
Other Branches,.....	do
MARYLAND.	
Banks in Baltimore,.....	do
Hagerstown,.....	do
Norfolk,.....	do
Frederick,.....	do
Westminster,.....	do
Farmers' Bank of Mary'd, do	do
Do. payable at Easton,.....	do
Salisbury,..... 5 per ct. dis.	do
Cumberland,.....	do
Millington,.....	do
DISTRICT.	
Washington,.....	do
Georgetown,.....	do
Alexandria,.....	do
PENNSYLVANIA.	
Philadelphia,.....	do
Chambersburg,.....	do
Gettysburg,.....	do
Pittsburg,.....	do
York,.....	do
Other Pennsylvania Bks. 1 1/2	do
Delaware [under \$5]..... 3 1/2	do
Do. [over \$5]..... 5 1/2	do
Michigan Banks,.....	do
Canadian do.....	do
	VIRGINIA.
Farmers Bank of Virginia	1
Bank of Virginia,.....	do
Branch at Fredericksburg	do
Petersburg,.....	do
Norfolk,.....	do
Winchester,.....	do
Lynchburg,.....	1 1/2
Danville,.....	do
Bank of the Valley,.....	do
Branch at Romney,.....	1
Do. Charlestown,.....	do
Do. Leesburg,.....	1
Wheeling Banks,.....	2 1/2
Ohio Banks, generally 3 1/2	do
New Jersey Banks gen. 1 1/2	do
New York City,.....	do
New York State,.....	2 1/2
Massachusetts,.....	2 1/2
Connecticut,.....	2 1/2
New Hampshire,.....	2 1/2
Maine,.....	2 1/2
Rhode Island,.....	2 1/2
North Carolina,.....	3 1/2
South Carolina,.....	3 1/2
Georgia,.....	3 1/2
New Orleans,.....	6

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